7 TRANSITION/CLOSEOUT

A planned, structured, and organized project transition and closeout is essential to the success of any project. Transition and closeout is the progression of a system or facility from a project (construction) mode to IOC, which for remedial action may include packaging and disposal of all waste and/or the transition to long term maintenance and surveillance. IOC for a project is to be defined as part of the APB. At a minimum, the project is to have attained sufficient operational capability to transition to operational control. Attainment of full operational capability (FOC) is normally led or accomplished by the operational organization. FOC, which includes full production and other optimizations, is not normally the project's responsibility. **All projects shall plan and issue a project Transition/ Closeout document (normally started in the Definition phase and issued in the PEP) which provides the bases for attaining IOC and obtaining CD-4 approval.**

Planning for transitioning a project to a user is an integral part of project planning and performance and includes the identification of funds to perform the required activities. Proper planning, preparation, adequate funding and staffing are essential to transitioning, turnover, and closeout activities. Without proper planning, these activities become time-consuming, costly, and may ultimately prove unsatisfactory.

Although turnover of a completed facility is preferred, the phased nature of projects may require partial turnovers. Partial turnovers are acceptable if cost-effective and beneficial to the DOE. Partial turnovers can include equipment items, operating systems, or facility areas. In any case, a properly planned and implemented project transition and turnover develops ownership within the user organization and serves to transfer ownership from the project to the user. The following activities, some of which precede CD-4 and some of which follow, are the PM's responsibility as a project progresses from execution to closeout. These activities can be tailored based on the needs of the project.

7.1 Checkout, Testing, and Commissioning

Early physical turnover and transition activities should include facility walk-downs for identification and correction of physical, process, safety, quality, or environmental deficiencies; and, planning, preparation, performance, and documentation of equipment and systems testing and operation. Checkout and test planning and preparation typically begin at the equipment (item) level, progress to the system level, and culminate at the facility level. Test planning begins during design to ensure that physical features necessary to support testing are provided.

7.1.1 Checkout

Equipment, systems, and facility checkout/walk-down efforts may be performed by the construction entity in cooperation with the project organization to identify problems and deficiencies. However, the PM/IPT prepares lists of findings (punch lists) and initiates documentation to implement corrective actions. Identified corrective actions are tracked and statused through closeout. Checkouts may not always be actual walk-downs. For example, for IT projects an appropriate check may still be performed even if a walk-down is not. Walk-downs occur when the constructor notifies the project that construction (or portions of construction) is complete. The basis for walk-downs is approved design, safety, quality, and construction documents. Walk-downs are performed by organizing combined project/construction/user teams that review and inspect equipment, systems, or facilities as they are declared complete by the construction contractor, and comparing the "completed product" against approved requirements. The team documents discrepancies and deficiencies using a punch list(s), identifies corrective actions, assigns a responsible individual for each deficiency, and identifies a corrective action completion date. Deficient items are tracked to completion and then re-inspected and (if necessary) retested for acceptability. The walk-down activity should serve as a basis for user acceptance of a completed project. Generally, the constructor is responsible for correcting deficiencies and problems. However, all corrective actions that involve new work scope, if approved, will have to be funded by the project.

An especially important yet generally separate walk-down is a safety walk-down. The safety walk-down should be performed by qualified project/user/safety personnel immediately prior to facility transition. A safety walk-down identifies any facility, system, or equipment safety deficiencies that might still exist. A safety walk-down team is instructed concerning the purpose of the walk-down and is to be totally focused on safety.

7.1.2 Testing and Commissioning

The purpose of testing and commissioning is to assure technical performance. The PM/IPT should prepare (or have prepared) component and system test procedures, perform or witness tests, document test results, and complete or have completed all required corrective actions. Test and commissioning teams can be structured to possess the capabilities necessary to prepare test plans, perform all test activities, evaluate test results, and identify and initiate corrective actions. The test teams may include project and user personnel. Testing serves to verify that the components, systems and facilities meet or exceed design requirements and performance parameters, and to train user personnel in the arrangement, location, control, and operation of the completed facility.

Checkout and testing is demanding and rewarding, as the project team realizes success as structures, systems, and components are tested and accepted. Key activities include the preparation and approval of test procedures, and the organization of test teams. Procedures are prepared by personnel who are (or will be) part of the test teams. User organization personnel are also part of the test teams. An important concept of acceptance

testing is "Don't lose momentum!" When testing begins, the PM assures testing continues safely, and to the extent possible, without interruption.

7.2 Knowledge Transfer

The project organization works closely with the user in developing and presenting (or helping present) specific process and facility related training, and continues to provide support to the user operations and maintenance forces throughout transition and turnover. The "driver" for this activity is to transfer project knowledge and experience to the user prior to closeout of the project and reassignment of project personnel. Training may include both classroom and hands-on (performance-based). If possible, project personnel should remain available "as needed" through facility cold operation.

7.3 Documentation

Turnover of a completed project to the user should include the turnover of appropriate project documentation/records. Records should be complete, properly identified, approved, and orderly. Records not provided to the customer are prepared for storage or disposal. Records include design, procurement, construction, pre-operational, testing, startup, safety, quality, and as-builts. In certain cases, electronic and hard copies of project records may be provided. As appropriate (and when available), project documentation that supports transition, turnover, ORR, and operation are to be made available to the user organization. All records that are turned over to the user or sent to storage may be accompanied by a complete inventory list. A duplicate of these lists may be maintained by the project organization (see the Practice on Records).

7.4 Lessons Learned

At completion, the project should prepare, distribute, and place into the permanent project records a lessons learned document. This includes any lessons learned from VM activities. If properly planned, a project lessons-learned program is in-place when the project is organized, with frequent distribution of interim lessons learned reports. The final lessons learned report then becomes assembling and issuing interim reports as a single document.

7.5 Additional Project Activities

The PM/IPT should perform or assure these activities are performed prior to turnover, project closeout, and personnel reassignment. The following is typical of items to be provided and documents to be made available:

- Operating and maintenance manuals and procedures

- Vendor data files including drawings, manuals, and specifications

- Preventive maintenance procedures and preventive maintenance records for those items of equipment purchased by the project that have required or will require preventive maintenance prior to turnover

- Special tools, lubricants, and spare parts as recommended by vendors, with sufficient inventory provided for one year of operation

- Sufficient spare pre-filters and HEPA filters to accommodate a complete replacement of all such filters prior to hot operation

- Operations and maintenance staff trained and qualified.

7.6   Project Turnover

The PM, with the support of the IPT, should establish a turnover, occupancy, and acceptance process that includes punch list item resolution, user walk-downs, verification of requirement compliance, system startup for proper operation, and documented transition from the project and acceptance by the user. An early turnover activity may be to prepare a memorandum of understanding (MOU) with the user to document the extent of the turnover package. For example, spare parts, manuals, procedures, vendor data, etc., that typically "belong" to neither organization.

7.7   Readiness Reviews

The PM and the IPT remain involved, as requested by either the user or DOE, in the RA or ORR process to help make those efforts more time and resource efficient.

Depending upon the type, size and complexity of the completed systems and facilities, the ORR and approval/acceptance process can be lengthy and costly. Because of this, ORR planning and preparation begins during conceptual design and continues throughout the project life cycle. Planning may involve the PM and the IPT as well as the user/operating organization. Typically, the PM is responsible for assuring the project (facilities, equipment, documentation) is ready for an ORR. The operating organization is responsible for personnel selection, training, qualification, and certification as well as procedures (operating, maintenance, safety) and interfacing with and supporting the DOE ORR Team. The funding required to support ORR activities is usually the responsibility of the project, the operating organization, and the DOE.

The project Transition/Closeout phase is challenging and may be frustrating, but it is also rewarding. The key to a project's success during this effort is detailed and continuous advance planning, good communication, qualified support personnel, and remaining fully committed and involved. Assigning scope, authority and responsibility to test teams is also a key to success.

7.8   CD-4, Approve Project Transition Complete

When construction, testing, and turnover are complete and the IOC has been attained, the project is ready to progress to CD-4, Approve Project Transition Complete. A key part of obtaining CD-4 is the delivery of appropriate project-related documentation that supports the initiation of operations.

For IT, the prerequisites for CD-4 include completion of programming/ configuration, software integration and testing, and product installation and acceptance. In the programming stage, the system design is transformed into the first complete representation of the software. The source code, including suitable comments, is generated using the approved program specifications. The installation and acceptance stage involves all activities required to install the software, database, and data of the software product

onto the hardware platform. Rigorous testing is performed to ensure software meets the defined requirements and is capable of running in a production environment.

7.8.1 Prerequisites for CD-4

- Verify performance criteria met as defined for IOC

- Issue a Final Safety Analysis Report or appropriate safety documentation

- Prepare operating and maintenance procedures

- Complete acceptance testing and correct deficiencies

- Complete a RA or ORR

- Provide a trained and qualified operations and maintenance staff

- Complete and issue a project transition-to-operations report

- If necessary, prepare and issue a project closeout plan including management agreement for final fiscal cost and administration closure.

7.8.2 Post CD-4 Activities

- Demobilize the project

- For software, a migration to production is approved and complete

- Operational documentation

- Complete as-builts

- Prepare and issue a lessons learned report

- Prepared and issue a project completion report.

7.9 PROJECT CLOSEOUT

Termination of a project involves bringing the project to a planned and orderly conclusion, and is to be planned with as much care and attention as other project phases. Termination and closeout need to be controlled to avoid an occurrence where project personnel either leave or are reassigned prior to final project closeout, leaving others to "clean up."

The primary issues that arise during completion are procedural and emotional. The project manager/IPT may strive to effectively resolve both as part of the closeout effort.

7.9.1 Demobilization

Demobilization is a significant event for the PM and project personnel. Emotional issues involve project team breakup and loss of identity, a need for fewer personnel during project completion, pressure from functional organizations to return personnel, and project personnel concerns about their next assignment. To smooth the demobilization process, the PM may (on a tailored basis) consider the following actions:

- Prepare and issue a closeout plan including an evaluation of existing resource requirements

- Meet with the project team to provide information, finalize remaining tasks and provide support to remaining team members

- Determine assignments to complete final project documentation such as a summary status report, budget report, final costs report, and executive summary

- Prepare and provide briefing (as requested) for the DOE, user, stakeholders, and media

- Work with functional peers and team members to establish clear phase-out procedures in terms of each individual's responsibilities, availability, and future assignment

- Meet with human resources, functional managers, and line managers to identify personnel needs; assist team members in scheduling interviews; and participate in matching needs, capabilities, and availability

- Acknowledge and recognize the contributions of all project participants.

7.9.2 Administrative and Financial Closeout

After either achieving its objectives or being terminated for other reasons, a project requires closeout. Administrative and financial closeout verifies and documents project results to formalize acceptance of a product or project by a sponsor, client, or user. It includes project records, analysis of project success and effectiveness, and archiving such information for future use.

Administrative and financial closeout activities are not delayed until project completion. Each phase of the project should be properly closed to ensure that important and useful information is not destroyed or lost—contracts are closed in a timely fashion and plans are laid for final closeout, prior to the loss of key project institutional knowledge.

All documents that record and analyze project performance, including planning documents that establish the framework for performance measurement, are to be available for review during administrative closeout. This includes appropriate project records that aid understanding project initiation, performance, technical, schedule, and cost scopes. Documents that describe the project deliverables (plans, specifications, technical reports/studies, drawings, electronic files, etc.) may also be available for review.

A set of indexed project records is prepared by the project for archiving. Any project-specific or program-wide historical databases pertinent to the project are updated. When projects are performed under contract, or when they involve significant procurement activity, particular attention may be given to archiving financial records.

Documentation stating that a client/sponsor/user accepts the product of a project is to be prepared, signed, distributed, and filed.

7.9.3 Closeout

Closeout involves procedural issues and phase-out administrative procedures, transfer of responsibilities, financial closeout activities, and preparation of appropriate documentation. The purpose of a project closeout effort is to assure a timely, orderly, cost-effective project termination. If the closeout is complex, and may take substantial

time, a closeout plan should be issued prior to full project demobilization. To ensure orderly closeout of a project, the project should, at the direction of DOE, and once all costs are incurred against the project with invoices and contracts closed, prepare a project closeout report following the approval of CD–4, Approve Project Transition Complete. The following items should be addressed in the closeout report (see the Practices):

- Technical, cost, and schedule baseline accomplishments
- Financial closeout, including a final cost report with details as required (including claims and claims settlement strategy where appropriate)
- Deactivation, decontamination and decommissioning planning (if required)
- Closeout approvals
- Permits, licenses, and/or environmental documentation
- Contract closeout status
- Adjustments to obligations and costs
- Photographic documentation
- Baseline change control log.